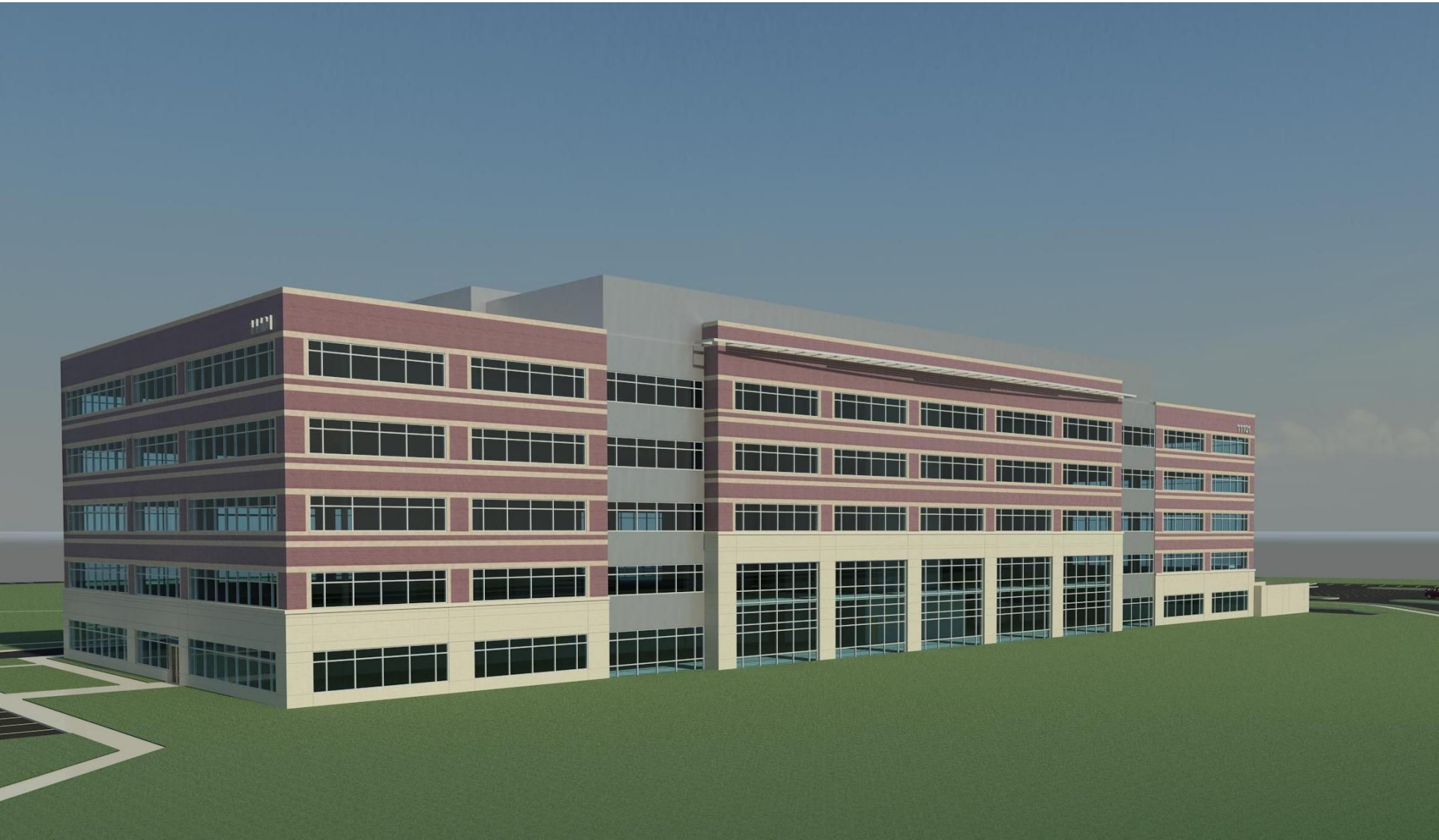
North Elevation Facing Johns Hopkins Road



Lobby

Main Conference Room (130 people)

Main Conference Room (130 people)

Delivering Climate Projections at Regional Scales to Support Decision makers: a new NOAA effort

D.E. Anderson, Jr.; A. J. Ray; A. E. MacDonald; R. B. Rood; J. P. Schneider

15 December 2010
American Geophysical Union

Systems Definition

Tasks
Documentation of end-to-end problem solving
Extensibility / Scaling Up
Feedback to Basic Data

Tasks
Interfaces to problem solving knowledge base
Process improvement

Tasks
Data Formats for Community
Remapping, regridding
Localization (space and time)
Parameters (Penman-Monteith)
Indices (e.g. Frich)
Ensemble Analysis
Information databases
Information Portals

Tasks
Emergence of analysis approaches
Emergence of evaluation approaches
Co-generation of solutions

Tasks
Inventory of products
Inventory of services
Development of experiential base

Tasks
Inventory of existing activities
Partnering of existing activities
Re-use and interoperability?

Pilot Activity Overview

Synthesize state-of-the-art approaches and applications of climate projection information at regional scales to support regional decision making

- Facilitate better connectivity of high resolution data with decision processes and models
- Evaluate and provide guidance on downscaling approaches
- Develop activities to translate and contextualize the information for various decision contexts
- Ultimate goal: develop an end-to-end system to support the use of best-available, quantitatively evaluated climate information at any given time.
- Effort envisioned as an intellectual partnership among the broader communities represented here.

The Unified Access Framework (UAF)

Building NOAA's Global Earth Observation Integrated Data Environment (GEO-IDE) one step at a time

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Steve Hankin (PMEL), Kevin O'Brien (PMEL/JISAO), Lewis McCulloch (HQ/TPIO) and the NOAA UAF team

Why?

Different fields have different concepts of 'data'

… and have developed solutions that make sense to them.

➔Getting people (and organizations) to change habits is difficult!

NOAA-world

- weather forecast (time critical)
- fisheries management (regulatory concerns)
- nautical charting
- climate, ocean, atmosphere research

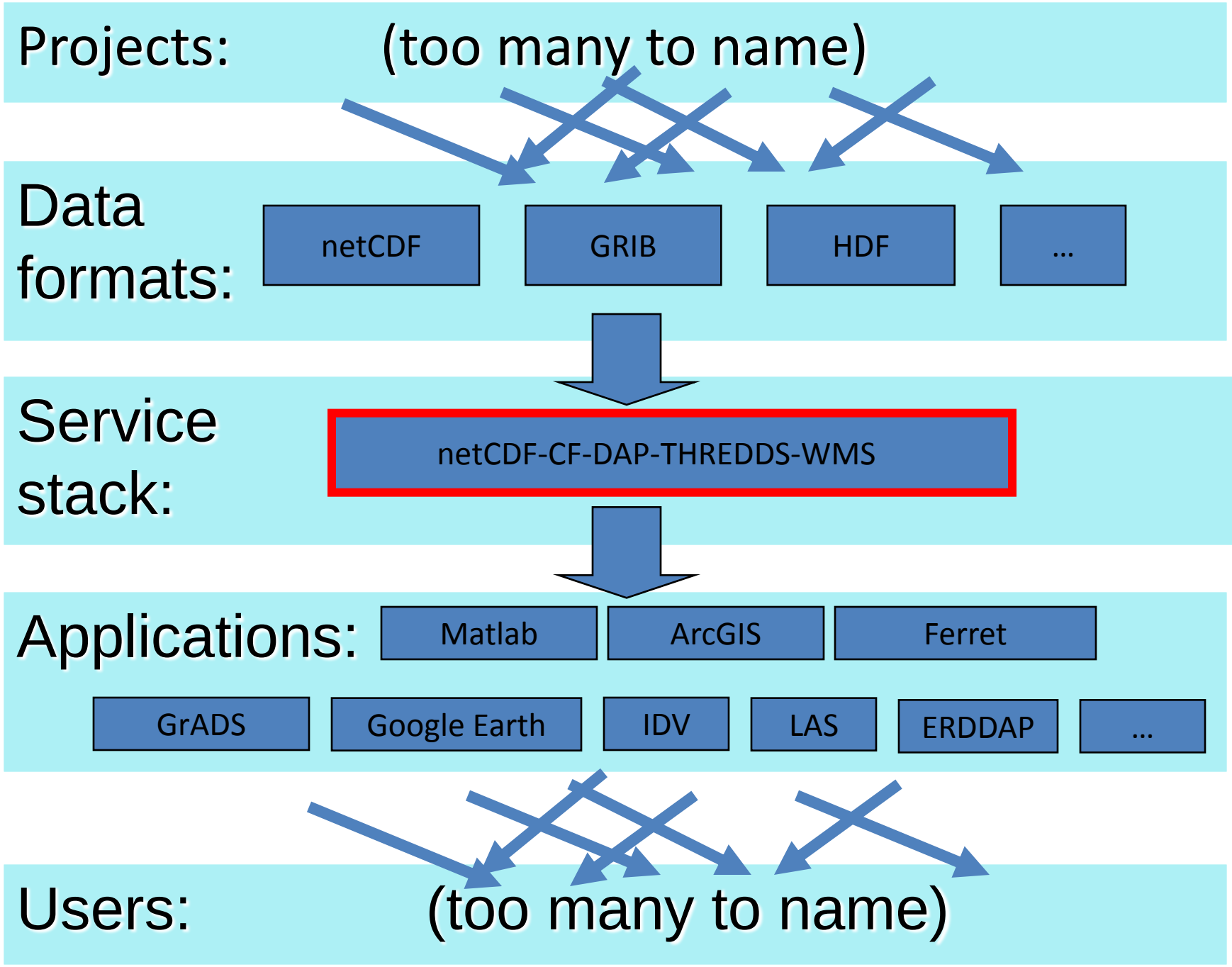
… the list goes on …

NOAA management has been reluctant to invest funds in Agency-wide data integration

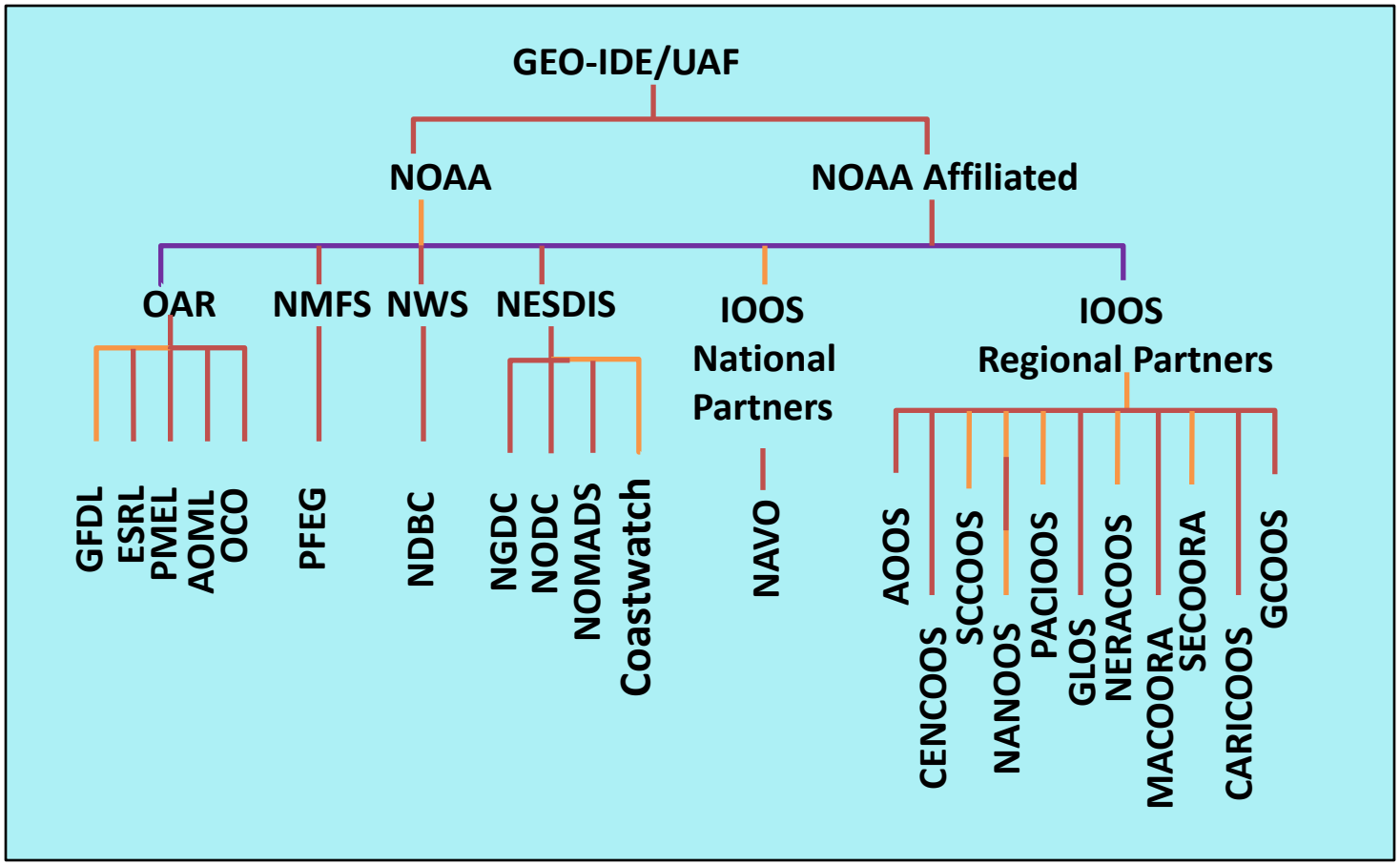
An alternative (‘agile’) approach

Don't Solve Problems
-- Copy Success

"*Switch: How to Change Things When Change Is Hard*",
Chip and Dan Heath (psychologists), 2010


Projects:
(too many to name)
Data formats:
netCDF
GRIB
HDF
...
Service stack:
netCDF-CF-DAP-THREDDS-WMS
Applications:
Matlab
ArcGIS
Ferret
GrADS
Google Earth
IDV
LAS
ERDDAP
...
Users:
(too many to name)

THREDDS “network topology”
a tree defined as distributed XML



Who is using this approach?

- Modelers
  - IPCC, GFDL, NCAR, …
- Satellite programs
  - GHRSST, PathFinder, CoastWatch, …
- NCEP weather and ocean forecasts
  - GRIB files served via NOMADS
- Coastal (“HF”) radar
- A growing list of observations programs
  - Argo, OceanSites, …
- Pending adoption by OGC